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COMPANY

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

UNITED STATES OF AMERICA,

Plaintiff,

v.

PACIFIC GAS AND ELECTRIC COMPANY,

Defendant.

Case No. 14-CR-00175-WHA

**RESPONSE TO REQUEST FOR FURTHER
INFORMATION RE WIND CONDITIONS
AND EQUIPMENT**

Judge: Hon. William Alsup

Date: January 10, 2019

Defendant Pacific Gas and Electric Company ("PG&E") submits this response to the Court's January 4, 2018 Request for Further Information Re Wind Conditions and Equipment.

1. WIND CONDITIONS.

The Court ordered that PG&E submit, with respect to each of the 18 October 2017 Northern California wildfires that the California Department of Forestry and Fire Protection ("CAL FIRE") has

1 attributed to PG&E's facilities, a description of the wind conditions in the vicinity of the fire's origin at
2 the time the fire began.

3 PG&E is not aware of any weather stations that recorded wind data in the immediate vicinity of
4 any of the CAL FIRE areas of origin concerning the 18 fires that CAL FIRE has attributed to PG&E's
5 facilities. As a result, PG&E has pulled data from multiple sources—both publicly available sources and
6 internal PG&E sources—that provides information about wind speeds that were measured at weather
7 stations closest to the incident locations around the times that CAL FIRE has reported each of the 18 fires
8 addressed in this submission ignited. In all cases, these data reflect the wind conditions at locations that
9 are a distance away from the alleged areas of origin. As a result, the wind conditions at the alleged areas
10 of origin likely varied from the conditions measured by the available stations for a number of reasons,
11 including differences in microclimates, topography, elevation, vegetation patterns and density and the
12 presence or absence of man-made structures. In addition, and as described below, some of the available
13 weather stations measured only sustained wind strength and did not record information about maximum
14 wind gusts.¹

15 With respect to publicly available information, PG&E has pulled wind data from a website
16 maintained by the University of Utah, which can be accessed at <https://mesowest.utah.edu/>. As described
17 on that website, MesoWest is a cooperative project that provides access to current and archived weather
18 observations across the United States. It relies on weather observing networks managed by government
19 agencies, private firms and educational institutions. Exhibits A through U reflect printouts from that
20 website for each of the 18 fires that CAL FIRE has attributed to PG&E's facilities. The printouts show,
21 among other things, wind data recorded at weather stations within a 25-mile radius around the area of
22 origin as identified by CAL FIRE surrounding the start time of the fire as alleged by CAL FIRE. The
23 printouts contain an entry for each weather station within the 25-mile radius. The first column lists the
24 name of the weather station; the second column provides additional information about the weather station,
25 including elevation; the third column provides the distance of the weather station from the alleged area of

26 _____
27 ¹ An additional source of information concerning observed wind speeds near the CAL FIRE alleged origin locations will
28 continue to be eyewitness testimony obtained as part of the ongoing civil litigation. Some of that testimony is referenced in
the factual reports provided by PG&E to the Court in connection with PG&E's December 31, 2018 submission.

origin; the fourth column lists the times for which data was available surrounding the CAL FIRE alleged origin times; and the last three columns provide wind data for each of the two times for which data were gathered in a two-hour window around the alleged CAL FIRE start time: direction of the wind, wind speed, and wind gust speed.² When pulling historical weather data from the MesoWest website, one must enter a specific hour on the hour for which one is requesting data. The website then provides the readings at each weather station taken either at that hour on the hour or, if the station did not record data at that hour, the most recent prior reading. It will also provide the data from one hour previous to the first reading. For example, if the CAL FIRE alleged start time is 4:35 p.m., one would enter 5:00 p.m. in the search bar. For each station, the website will then provide the readings from 5:00 p.m.—or as soon prior to 5:00 p.m. as a reading was available—as well as a reading from exactly one hour prior to the first reading. More granular data is available on a station-by-station basis, but PG&E is providing this overview so that the Court can easily review summary data from all stations within a 25-mile radius. The chart below identifies which exhibit corresponds to each of the 18 fires. There are multiple exhibits for fires for which CAL FIRE has alleged more than one point of origin.³

Fire	Exhibit
37	A
Adobe	B
Atlas	C, D
Blue	E
Cascade	F
Cherokee	G

² The wind data reflects both the measure of sustained wind speed or wind gusts at the time indicated in the chart, as well as the difference between that value and the value recorded 24 hours prior. For example, a wind speed of “20/+13” at 23:25 on October 8 means that the sustained wind speed at that time was 20 mph, which is 13 mph greater than 24 hours prior.

³ There are a variety of other publicly available sources for wind data, including, for example, online sources such as Wind Ninja (<https://www.firelab.org/project/windninja>) and Weather Underground (<https://www.wunderground.com/>). Additionally, CAL FIRE has publicly released investigative reports that contain descriptions of wind conditions at the areas of origin alleged by CAL FIRE. These reports can be found at the websites listed in PG&E’s supplemental factual summaries, which were attached as Exhibits HH (Cascade), II (Cherokee), KK (LaPorte), PP (Nuns), UU/WW (Potter/Redwood), and AAA (37) to PG&E’s December 31 submission.

Fire	Exhibit
Honey	H
LaPorte	I
Lobo	J
McCourtney	K, L
Norrbom	M
Nuns	N
Oakmont	O
Partrick	P
Pocket	Q
Point	R
Potter/Redwood	S, T
Sulphur	U

At the time of the October 2017 North Bay Wildfires, PG&E also maintained networks of weather stations throughout its service territory. A limited number of those weather stations had the ability to record wind data at that time. None of those weather stations recorded the speed of maximum wind gusts. Attached as Exhibit V is a chart identifying for each of the 18 fires the wind speed recorded at the start time alleged by CAL FIRE as measured by the nearest PG&E weather station that recorded wind speed. The chart also includes an estimate of the distance between the weather station and the fire origin area alleged by CAL FIRE.⁴

⁴ As set forth in PG&E's Response to Request for Further Information Re Atlas Fire, which has been filed with the Court at the same time as this submission, PG&E has retained experts in wind modeling to assess wind conditions at the various incident locations as part of its defense of the ongoing civil litigations. That expert work is ongoing, the experts have not been designated as testifying experts and there is no deadline in the civil litigation for such designation or disclosure of expert opinions.

1 **2. EQUIPMENT.**

2 The Court also ordered that, with respect to each of the 18 October 2017 Northern California
3 wildfires that CAL FIRE has attributed to PG&E's facilities, PG&E submit a description of the equipment
4 and type of power poles involved and the minimum spacing between the lines.

5 In response to the Court's request, PG&E is providing Exhibit W, which contains a description of
6 the poles and equipment at the span or spans from which PG&E understands CAL FIRE collected evidence
7 for each of the 18 fires (the "incident locations").⁵ As used for this submission, a "span" refers to two
8 adjacent poles and the conductor between them.

9 With respect to the Court's request for a description of the type of power poles involved, PG&E is
10 providing in Exhibit W the height and material composition of the poles at the incident location span.
11 PG&E is also providing the voltage of the relevant line and whether it is a distribution line or a transmission
12 line.

13 In response to the Court's request for a description of the equipment involved, PG&E is providing
14 in Exhibit W the material composition of the conductors at the incident location span and the number of
15 conductors. PG&E is also identifying distribution line equipment—transformers, switches, fuses, reclosers
16 or capacitors—affixed to the poles at either end of the incident location span.

17 PG&E previously provided the Court with PG&E's understanding of the evidence collected by
18 CAL FIRE for each fire in the factual reports and supplemental factual reports submitted with PG&E's
19 December 31 Response. For reference, PG&E is providing that information again to the Court in its
20 response below. This evidence includes PG&E equipment, telecommunications equipment and vegetation
21 that PG&E understands CAL FIRE collected for each fire. This information reflects PG&E's best
22 knowledge of the evidence that was collected by CAL FIRE; PG&E is currently unaware of whether CAL
23 FIRE collected additional evidence from the incident locations.⁶

24 _____
25 ⁵ For the Honey Fire, PG&E was not present at any evidence collection by CAL FIRE, and CAL FIRE has not publicly
26 released information regarding whether it collected evidence for that fire. For the Honey Fire, the incident location used
herein is the location for which CAL FIRE requested information from PG&E: the power lines located adjacent to
2484 Honey Run Road, Chico, Butte County.

27 ⁶ As set forth in the factual reports and supplemental factual reports previously submitted to the Court, PG&E also collected
28 evidence for certain of the fires.

1 Finally, in response to the Court's request for "the minimum spacing between the lines", PG&E is
 2 providing in Exhibit W the minimum spacing between conductors, as measured at insulator pins, required
 3 by applicable CPUC regulations (specifically, General Order 95 and its predecessors) for each incident
 4 location span.

5 The actual physical distance between the lines at each incident location could have been different
 6 from the *minimum* spacing requirements prescribed by CPUC regulations. PG&E's records do not record
 7 the actual spacing of the conductors at the incident locations prior to the 2017 Northern California wildfires.
 8 Determining the actual spacing between the conductors would thus require field measurements. Because
 9 equipment may have been collected as evidence or otherwise altered or replaced during post-fire repair
 10 work, actual measurement of pre-fire conductor spacing will not be available for many of the incident
 11 locations. For the spans where such information is still available, PG&E is in the process organizing field
 12 visits to take measurements in response to the Court's request. Additionally, where field measurements
 13 are not available, PG&E is in the process of attempting to determine, based on available PG&E's records,
 14 what design standards applied for line spacing at each incident location span. PG&E will supplement its
 15 answer with any field measurements it is able to collect or design standards it is able to ascertain.

16
 17 Respectfully Submitted,

18 Dated: January 10, 2019

JENNER & BLOCK LLP

19
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